

# Predator Program Office

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*Developing, Fielding, and Sustaining America's Aerospace Force*



**U.S. AIR FORCE**

## Predator Program Overview 14 June 02

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# ***Predator System Description***

## ***System Overview***



**SATCOM Link Terminal  
(RQ-1U/W)**



**Four (4) Predator (RQ-1L)  
Air Vehicles**



**Ground Control Station (RQ-1Q)  
& Line of Sight Link Terminal**

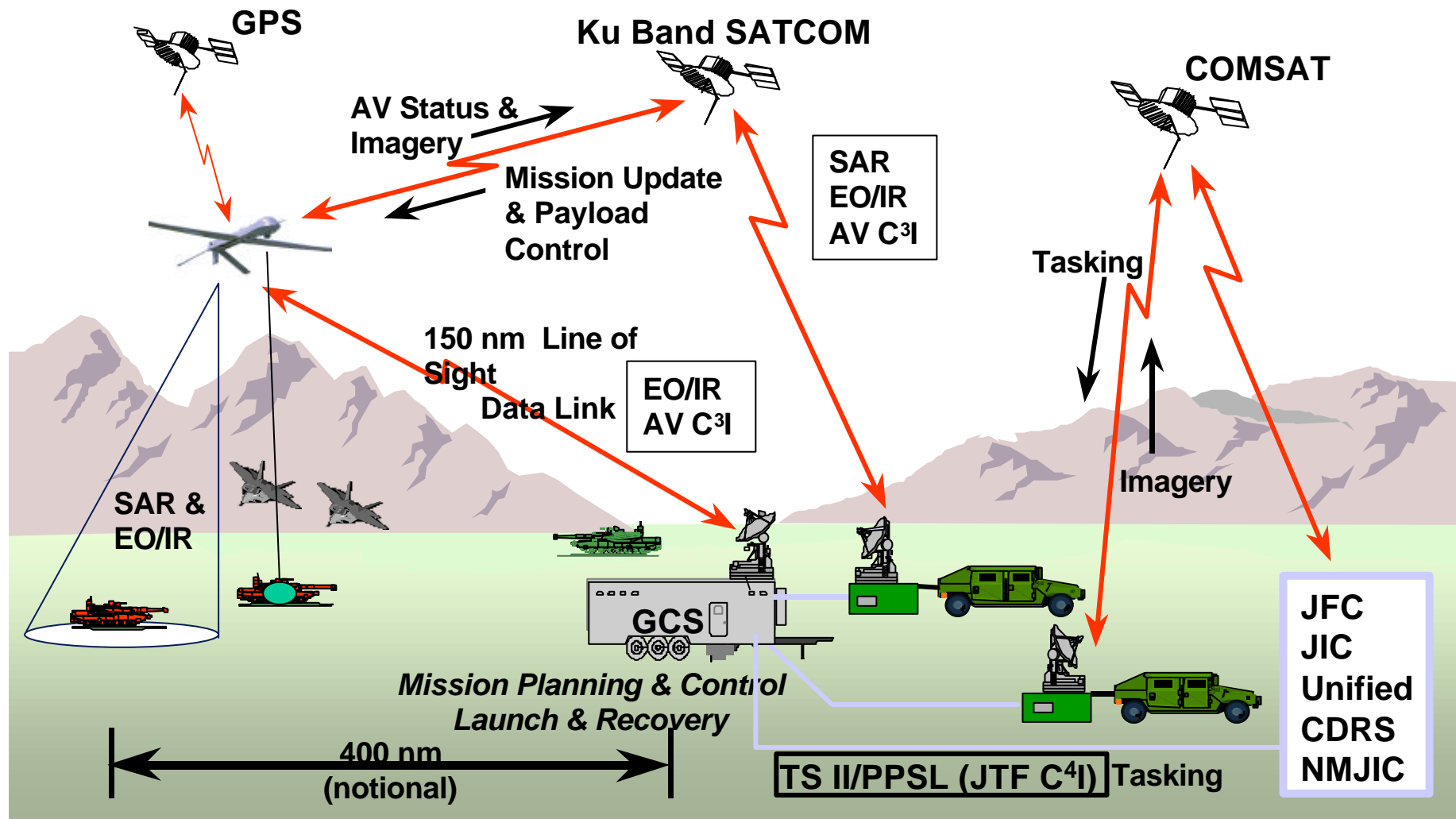


**55 Personnel**



# Predator System Description

## Concept of Operations (CONOPS)



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# ***Predator System Description***

## ***Aircraft Characteristics***



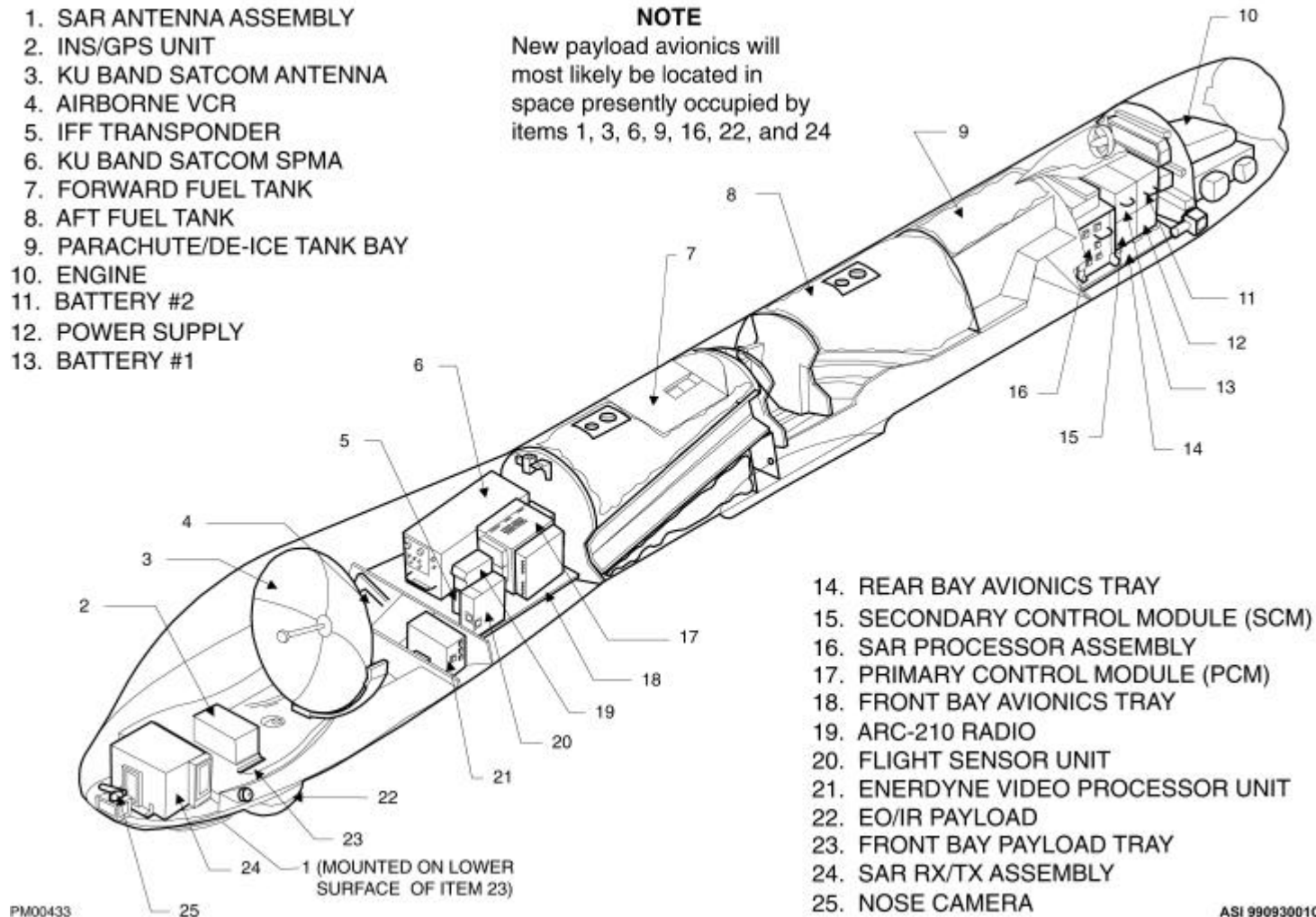
• Wingspan:	48.7 FT
• Length:	26 FT
• Cruise Velocity	70 KTS
• Radius Of Action:	400 NM
• Duration:	>24 hrs
• Max Altitude:	25,000 ft MSL
• Payload Capacity:	450 lbs
• Sensors:	EO/IR/SAR
• Communications:	LOS (C-Band) BLOS (Ku Band)



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# Predator System Description

## Aircraft Internal Layout



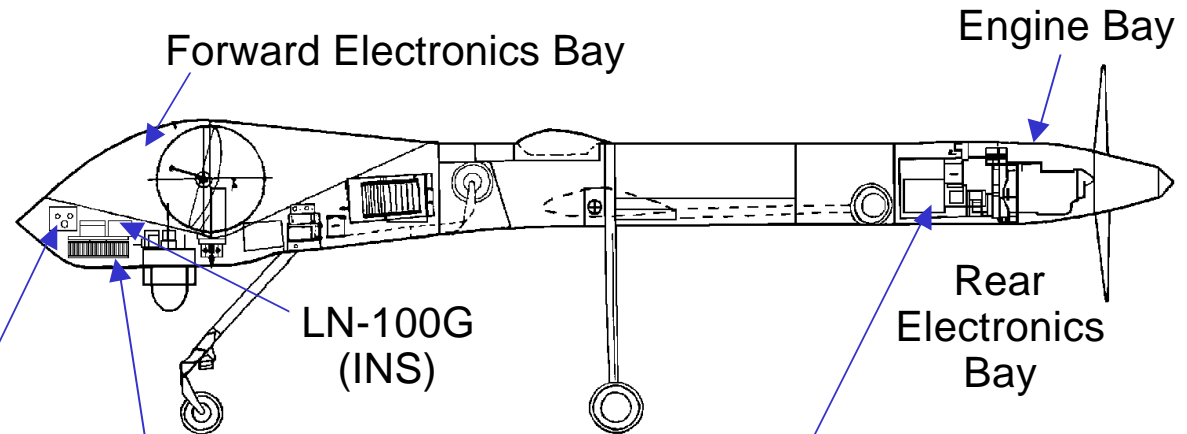
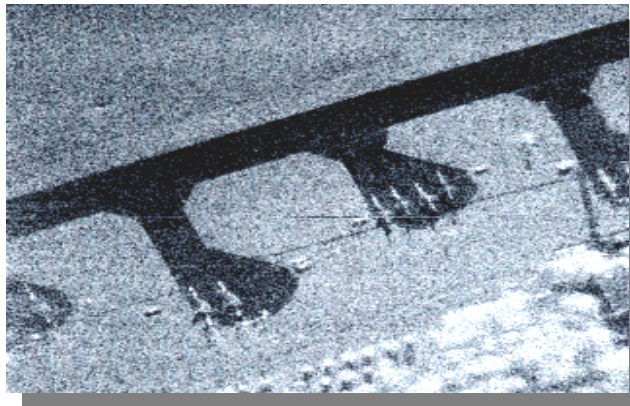
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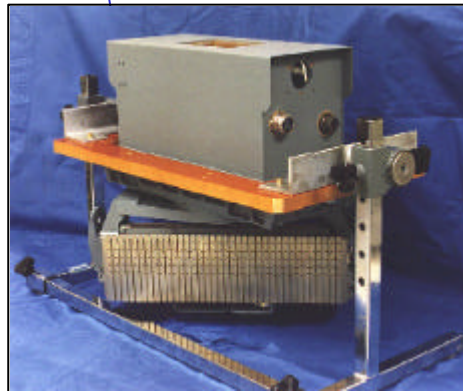
# Predator System Description

## Synthetic Aperture Radar (SAR)



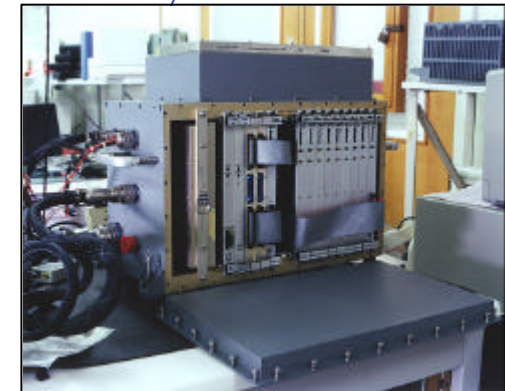
Receiver/Transmitter

Weight	Power	Volume
58 lbs	496 W	1.05



Antenna

Weight	Power	Volume
52 lbs	132 W	1.03



Processor

Weight	Power	Volume
55.5 lbs	530 W	1.5

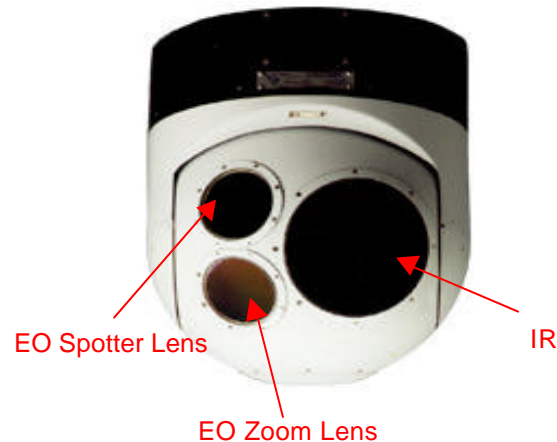
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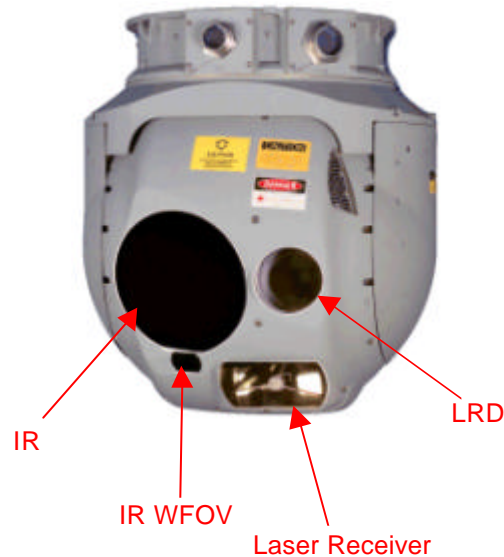
# ***Predator System Description***

## ***Electro Optical/Infrared (EO/IR) Sensors***

### **WESCAM 14**



### **AN/AAS-44**



### **MTS**



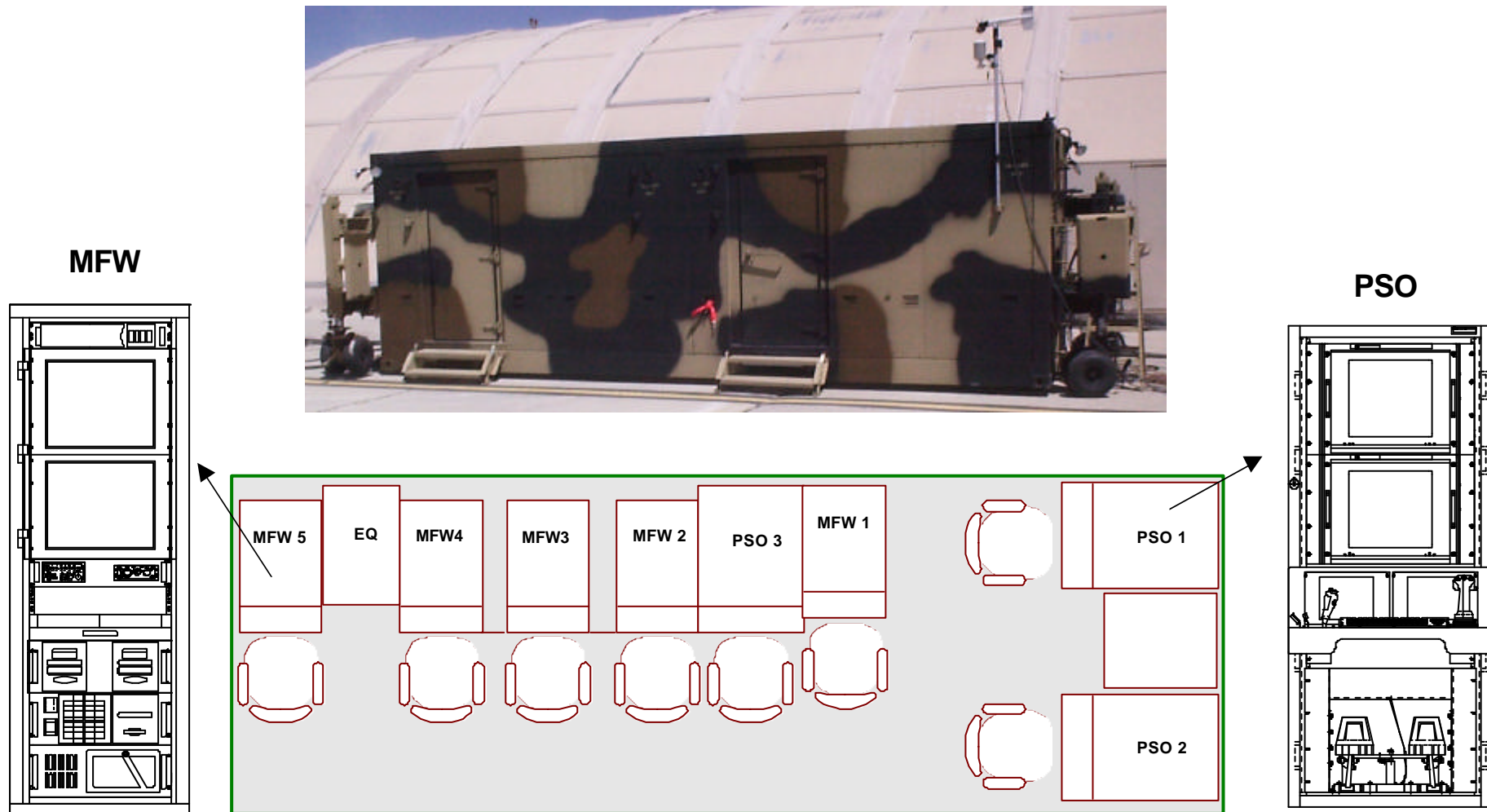
- **Current Predator EO/IR sensor is WESCAM 14**
- **AN/AAS-44 is the predecessor to MTS**
  - *Modified and deployed during Kosovo War - Nicknamed "Kosovo Ball"*
  - *Used to laze targets for others to engage*
- **Prototype MTS borrowed from Navy for Hellfire Demo**
  - *Production MTS program will begin 5 Aug 02*





# ***Predator System Description***

## ***Ground Control Station (GCS)***



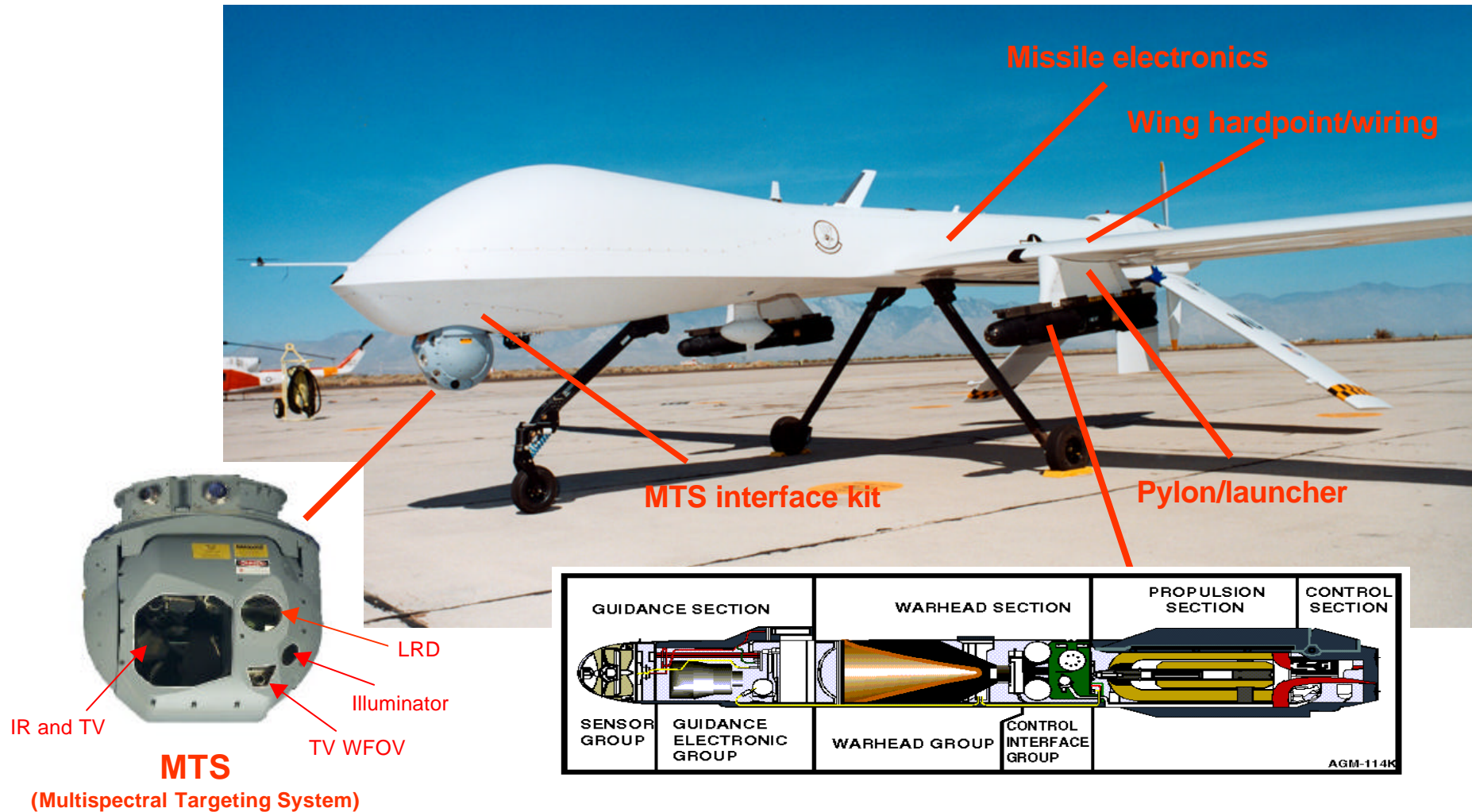
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# Predator Development Projects

## Hellfire Modifications



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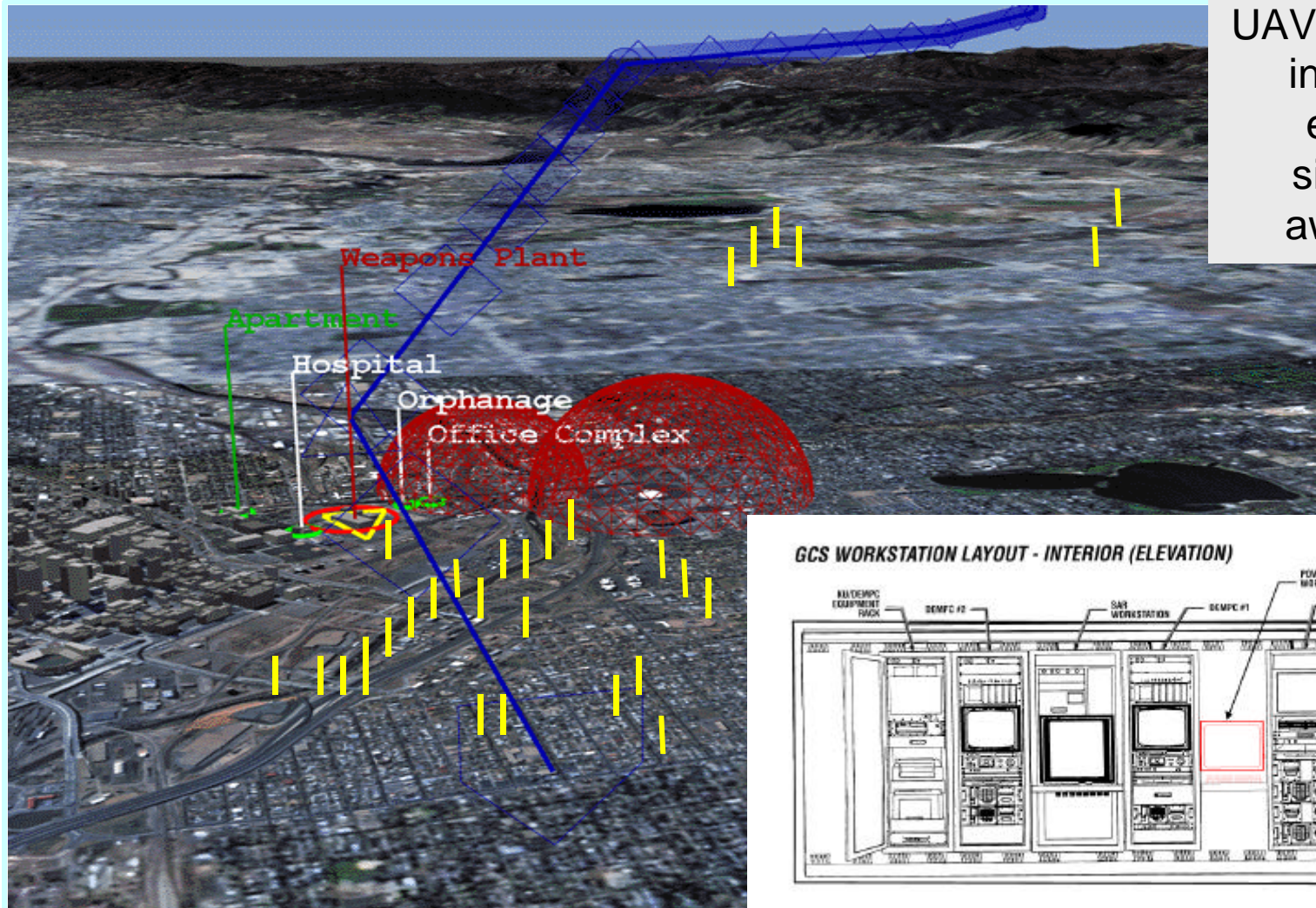




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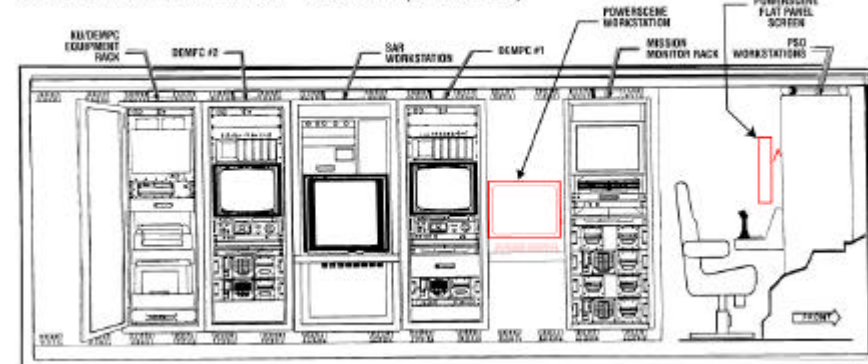
# Predator Development Projects

## Predator View



UAV Battlelab initiative to enhance situational awareness

GCS WORKSTATION LAYOUT - INTERIOR (ELEVATION)



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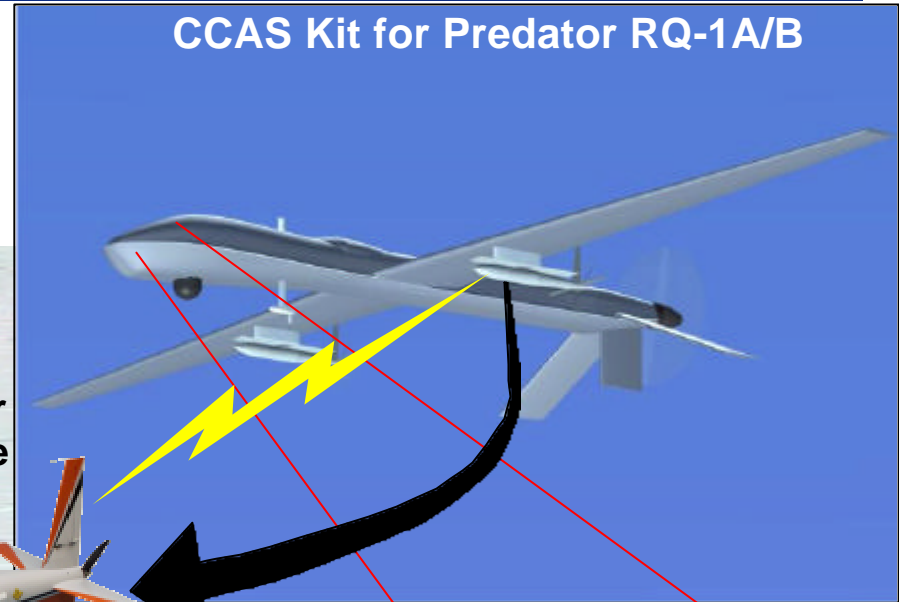


# ***Predator Development Projects***

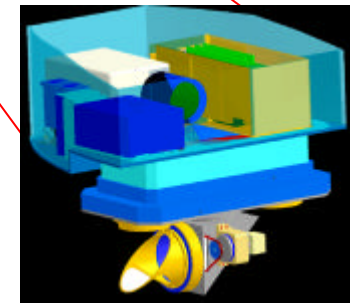
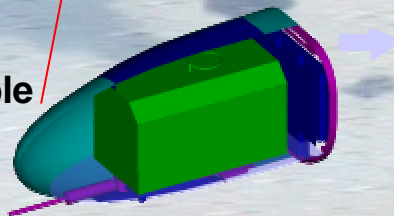
## ***Chemical Combat Assessment System***



**Flight Inserted  
Detection  
Expendables for  
Reconnaissance  
(FINDER)**



**Spectrometric Point  
Ionizing Detector  
Expendable/Recoverable  
(SPIDER)**



**Predator Infrared Airborne  
Narrowband Hyperspectral  
combat Assessor  
(PIRANHA)**

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# Predator Development Projects

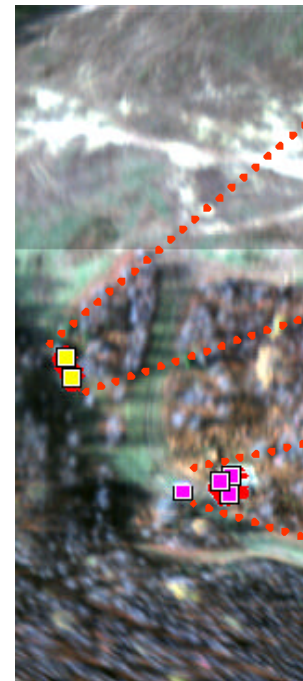
## Talon Radiance



Hyperspectral Camera

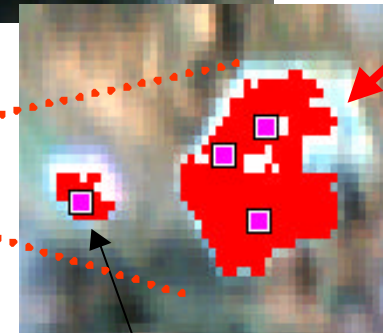
Line Scanner

- Congressionally directed AFTENCAP
- See "Tanks-Under-Trees"



*Yugoslav  
Camouflage  
Netting*

*US Desert  
Camouflage  
Netting*



*HSS Real Time Display*

*Tank Decoy*

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# ***Predator Development Projects***

## ***Predator B***



### **Payload Capacity**

**Internal: 750 lbs**

**Wings: 3,000 lbs**

**Wingspan: 64 FT / 19.5 M**

**Length: 36 FT / 11.0 M**

**Powerplant: HONEYWELL 331-10, 950 HP**

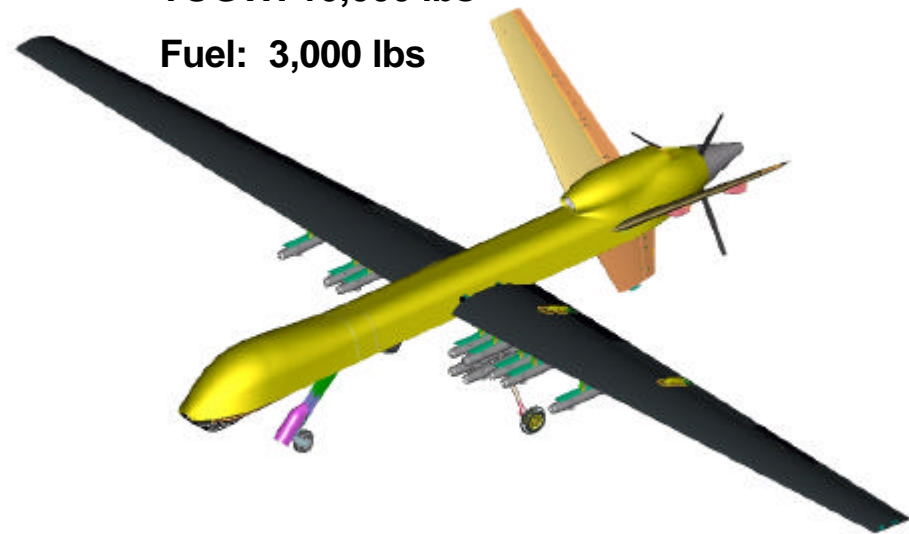
**Max Level Speed: 225 KTAS**

**Endurance: 24 hrs**

**Max Altitude: 48,000 ft**

**TOGW: 10,000 lbs**

**Fuel: 3,000 lbs**





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# ***Predator Program Overview***

## ***The Future***

**“ Before the war, the Predator had skeptics because it did not fit the old ways. Now it is clear the military does not have enough unmanned vehicles.”**

**-President George W. Bush, 11 Dec 01**



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